We claim:

1. A process for anisotropically dry etching of an organic antireflection layer, which comprises etching the organic antireflection layer with an etching gas composition primarily containing hydrogen and nitrogen.

2. The process according to claim 1, which comprises etching the organic antireflection layer with an etching gas composition consisting essentially of hydrogen and nitrogen.

3. The process according to claim 1, which comprises using hydrogen and nitrogen in a ratio of 1:1.

4. The process according to claim 1, which comprises etching with an etching gas composition containing at least 80% hydrogen and nitrogen as reactive etching gases.

5. The process according to claim 4, wherein the etching gas composition contains, as reactive etching gases, only hydrogen and nitrogen.

6. The process according to claim 1, which comprises etching with an etching gas composition containing additives for improving etching gas properties in the dry etching process.

7. The process according to claim 1, which comprises using a photoresist layer as an etching mask for the organic antireflection layer, and setting the etching gas composition such that a vertical removal of the photoresist corresponds at most to an etching rate of the organic antireflection layer.

8. The process according to claim 1, which comprises setting the following process parameters for the reactive ion etching of the organic antireflection layer:

pressure of the etching gases in a range between 2.67 and 26.67 Pa; and

flow of the etching gases in a range between 0.17 and 1.67 10^{-6} m^3 sec^{-1}.

9. The process according to claim 8, which comprises exposing an etching object to a magnetic field strength from 0 to 120 Gauss and processing the object with magnetic field-assisted reactive ion etching.

10. The process according to claim 1, which comprises etching the organic antireflection layer with a plasma from a source selected from the group consisting of an electron cyclone resonance plasma source, an inductively coupled plasma, or a Helicon source.